

## Just the Facts...

### Stored Product Pests Cigarette Beetle

18-062-0110

Cigarette beetles (*Lasioderma serricorne*) are among the most commonly encountered insects infesting stored food. Both larvae and adult beetles feed on a variety of products to include cereals, pasta, spices, dried fruit, tobacco, and dry animal food. Cigarette beetles are also found in dried flowers and grain-based anticoagulant baits commonly used for rodent control in food warehouses.



*Lasioderma serricorne* ventral view (left), close up of serrated antenna (right). Danielle Thomas, ORISE Fellow, ESP, Molecular Biology Lab, USACHPPM

**What do they look like?** The adult beetles are oval, about 1/10-inch long, and are reddish-brown in color. Fine hairs on the body give the beetles a silky appearance. The head is bent downward and not readily seen from above. The antennae are serrated (saw-like) which differentiates cigarette beetles from drugstore beetles which have 3-segmented clubbed antennae. The larvae are 3/16-inches, hairy, and cream colored with brown heads.

**How do they get in?** Cigarette beetles are free-living in the environment and are often found swarming outside in May and August. Adults are strong fliers and attracted to lights. They are also attracted to stored food products but may be brought into food warehouses (commissaries), retail outlets (exchanges and shoppettes), and homes in infested grocery products and dry animal food. Adult beetles are commonly transported inside food packages. The beetles may also be found on the outside of pallets containing food products and between boxes and bags of food on palletized cargo. The increased use of air-tight plastic or foil bags and pouches has significantly reduced cigarette beetle infestations during transit and storage since the insects rarely penetrate the packaging. Dry animal food is more susceptible since many packages are not "air-tight" and exhibit small openings which permit cigarette beetle entry.



Cigarette beetle pupa, adult and larva, Clemson University

**Where do they live?** The beetles live inside the products, but adults will often leave the food to seek mates. Adult beetles are often found along window sills and interior walls. This may be the first indication that a warehouse is infested, but this will not indicate which products contain beetles or where infested products are located. Cigarette beetles are also found in spilled food in cracks and crevices and seams on the floors in shipping containers, rail cars, and delivery trucks.

**Do they multiply?** Yes. The adult female lays approximately 100 eggs, usually in batches of 30. The life cycle takes 70-90 days from egg to adult, but may shorten to 50 days inside buildings. Overlapping generations (3-6 per year) are common in the warmer Gulf Coast states, but only one generation per year is found in cooler temperate regions. The adult beetles live 30 days. If left unchecked, beetles from a single infestation can quickly spread to other susceptible products in warehouses, stores, or homes.

**What damage do they cause?** Larvae damage food products through feeding. Cigarette beetles also infest dried flowers and other plant material. The adult beetles entering homes may be first attracted to dried plants and then seek stored food in kitchens and pantries.

**Prevention methods.** Sanitation and inspection are the keys to good cigarette beetle control. Pheromone traps are useful in determining if beetles are active in warehouses, but they will not indicate the location of infested products. Inspect pallets of food upon arrival at warehouses, and inspect individual products when brought home from retail outlets. The presence of adult insects or holes in packages are indications of infestations. Inspect salvage areas in food warehouses since spillage from broken packages is more common than in the storage areas. Check rodent bait stations weekly to ensure grain-based baits are not infested.

Remove spilled food daily and clean warehouses with a vacuum monthly, especially along walls and the edges of pallets where beetles and food products accumulate. Place food pallets at least 18 inches from walls to permit routine inspection and cleaning. Rotate food products so that older stocks are sold first; frequently inspect food with older manufacturing dates for infestations since adult beetles tend to emerge from packages in greater numbers as the infestation ages. This principle also applies in the home since beetles from a single infested product can migrate and infest multiple food products stored in a kitchen or pantry. Store dry food products in containers with tight fitting lids if the contents are not used within one week after opening. Place infested products inside plastic bags prior to disposal to reduce the spread of adult beetles. Segregate infested products in warehouses from non-infested products and cover with plastic until treatment or disposal. Place infested products in a freezer at 0 degrees Fahrenheit for 4 days to kill adults, larvae, and eggs. Do not reissue infested products or use for food preparation even after beetles are killed. Infestations can also occur when rodents are present. Mice may accumulate dry animal food, crackers, and cereal in harborage and nesting areas which are inaccessible (behind walls or under cabinets). Rodent control and pesticide treatment in void areas may be the only way to eliminate cigarette beetle infestations in homes after efforts to inspect and locate infested products in kitchens or pantries have failed.

For more information on surveillance and control of stored product pests, see the Armed Forces Pest Management Board Technical Guide No. 27, Stored-Product Pest Monitoring Methods, June 2005, and Technical Guide No. 38, Protecting Meal, Ready-to-Eat Rations (MREs) and Other Subsistence During Storage, June 2005 at <http://www.afpmb.org/pubs/tims/tims.htm>.